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Permit

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



**NOTICE OF APPLICATION AND PRELIMINARY DECISION
FOR HAZARDOUS INDUSTRIAL WASTE PERMIT**

PERMIT NO. 50021

APPLICATION AND PRELIMINARY DECISION. Detrex Corporation, a closed commercial industrial and hazardous waste management facility, has applied to the Texas Commission on Environmental Quality (TCEQ) for a permit renewal that will authorize only corrective action. The facility is located 322 International Parkway, Arlington in Tarrant County, Texas. TCEQ received the application on January 17, 2006.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at George W. Hawkes Central Library, 101 East Abram Street, Arlington, TX 76010-1183.

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ holds a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application.** If comments are received, the mailing will also provide instructions for requesting a contested case hearing or reconsideration of the Executive Director's decision. A contested case hearing is a legal proceeding similar to a civil trial in a state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name; address, phone; applicant's name and permit number; the location and distance of your property/activities relative to the facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; and the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request

must designate the group's representative for receiving future correspondence; identify an individual member of the group who would be adversely affected by the facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission will only grant a contested case hearing on disputed issues of fact that are relevant and material to the Commission's decision on the application. Further, the Commission will only grant a hearing on issues that were raised in timely filed comments that were not subsequently withdrawn.

EXECUTIVE DIRECTOR ACTION. The Executive Director may issue final approval of the application unless a timely contested case hearing request or request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the Executive Director will not issue final approval of the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

All written public comments and requests must be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 within 45 days from the date of newspaper publication of this notice.

AGENCY CONTACTS AND INFORMATION. If you need more information about this permit application or the permitting process, please call the TCEQ Office of Public Assistance, Toll Free, at 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040. General information about the TCEQ can be found at our web site at www.TCEQ.state.tx.us.

Further information may also be obtained from Detrex Corporation at the address stated above or by calling Mr. David Craig at (248) 358-5800 ext 131.

Issuance Date: January 8, 2007

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 14, 2007

Mr. Stan Miles
Detrex Corporation
24901 Northwestern Highway, Suite 410
Southfield, MI 48075-5111

Re: Municipal Setting Designation (MSD) Application for the Detrex Corporation property
Located at 322 International Parkway, Arlington, TX; MSD Application No. 044

Dear Mr. Miles:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the MSD application for the above referenced facility. This letter is written to address the applicability of an MSD for a Resource Conservation and Recovery Act (RCRA) permitted storage treatment and disposal (TSD) facility.

Section 361.808(g) of the Texas Health and Safety Code states that nothing in this chapter is meant to alter or supersede any requirement of a federally authorized environmental program administered by the State of Texas. The Texas Commission on Environmental Quality (TCEQ) has been authorized by the United States Environmental Protection Agency (USEPA) to implement the federal Resource Conservation and Recovery Act (RCRA) in lieu of USEPA. There are specific requirements in 40 Code of Federal Regulations (CFR) Part 264, Subpart F related to releases from Solid Waste Management Units (SWMUs) which require monitoring, investigation, and remediation of releases of hazardous waste and hazardous constituents into the environment. Additionally, the provisions of Provision IX Corrective Action for Solid Waste Management Units contained in the RCRA permit, including investigation, response actions and groundwater monitoring are required to be performed to meet permit requirements at your facility. Therefore, the TCEQ believes that an MSD's application to this site is limited by statute.

It is possible that an MSD may be used at a later time for this facility strictly as an institutional control to prevent exposure to contaminated groundwater. However, it would be more appropriate to evaluate the applicability of issuance of a MSD certificate for that reason during the response action phase of the permit. At that time, the TCEQ could evaluate its applicability as part of a response action under the permit requirements of 40 CFR part 264. It should also be noted that there are other options for preventing exposure to groundwater that might be evaluated as well.

If you are interested at a later time in pursuing an MSD to serve as an institutional control, submittal of a response action plan incorporating the use of an MSD should be submitted prior to pursuing issuance of an MSD certificate. A new MSD application may be submitted for consideration of a MSD certificate once the above criteria have been met.

If a subsequent MSD application is submitted, please incorporate the following:

1. Revise the notification letter to account for Section 361.805(e) (Notice) of the Texas Health and Safety Code which states that the notified parties have 60 days to provide comments to the TCEQ concerning the MSD Application. The example notification letter provided does not state that the recipient may submit comments to the TCEQ. The intent of notification is to allow well owners to provide comments to the TCEQ in regards to the MSD application. Please include a statement in the notification letter reflecting that the well owner may comment to the TCEQ within 60 days from the date of the letter and reissue the notification letter to all well owners within 5 miles radius of the MSD property
2. The TCEQ recommends that the notice letter also include contact information for providing comments to the Remediation Division. The recommended contact information for submitting comments is: Mike Frew, TCEQ, Remediation Division, MC-221, P.O. Box 13087, Austin, TX 78711.
3. Provide proof the revised notification letter has been sent and received by all registered groundwater well owners within 5 miles of the MSD property. Proof of receipt should consist of signed receipts.

Should you need additional information or wish to discuss these comments, please contact me at (512) 239-5872 or mfrew@tceq.state.tx.us.

Sincerely,



Mike Frew, P.G., Project Manager
Environmental Cleanup Section II
Remediation Division

MF/ts

cc: Ms. Jackie Hardie, P.E., Director, Waste Permits Division, MC-126

Mr. Phillip Bullock, P.G.
Geomatrix Consultants, Inc.
5725 Highway 290 West, Suite 200-B
Austin, TX 78757-8722

Mr. Troy Hill, P.E., Associate Director for RCRA
US Environmental Protection Agency Region 6
1445 Ross Avenue, Suite 1200 (6PD-C)
Dallas, TX 75202



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

October 24, 2007

Alan R. Batcheller
Director
Remediation Division
Texas Commission on Environmental Quality
MC 225
P.O. Box 13087
Austin, Texas 78711-3087

Dear Mr. Batcheller:

As a point of clarification to your September 14, 2007, letter to Detrex regarding their Municipal Setting Designation (MSD) Application No. 044, it is our expectation that a MSD would not be used to modify or alter the requirements of any RCRA permitted facility. The Region was generally supportive of the legislation which would expedite brownfield cleanups in an environmentally protective manner. This would include certain ground water being designated as non-potable drinking water; thereby limiting the extent cleanup would be necessary when the pathway of exposure is effectively eliminated, especially to promote brownfield property redevelopment where an innocent land owner is trying to redevelop an area.

The Region never envisioned or intended that a MSD, in the present form, would be used at facilities subject to the State's federally authorized/approved programs i.e., RCRA and Underground Storage Tanks (UST). These facilities are subject to federal program requirements to investigate and cleanup and, where waste is left in place, to long term monitoring. In addition, each of these programs requires that facilities have monies set aside for closure, investigation, cleanup and monitoring. In fact, because of the broad language in the MSD legislation stating the executive director **shall not require** the investigation or remediation of groundwater at a site covered by a MSD, see Sec. 361.800, the Region requested language be added to the bill stating the "Nothing in this subchapter is meant to alter or supersede any requirement of a federally authorized environmental program..." Sec. 361.808.


The MSD legislation has the potential to impact some of Texas' federally authorized/approved programs, particularly RCRA and UST. If the designation of an MSD results in facilities not being required to investigate and remediate releases as defined by their respective programs, EPA may have to act and there could be an adverse impact on the status of program authorization/approval.

If you have any questions, please feel free to contact me on RCRA issues at (214) 665-6647, or contact Steve on UST issues at (214) 665-2730.

Sincerely,



Troy C. Hill, P.E.
Associate Director for RCRA
EPA Region 6



Steve Vargo
Associate Director for PTU
EPA Region 6

cc: Jacqueline S. Hardee, P.E.
Director, Waste Permits Division
Texas Commission on
Environmental Quality
MC126



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

September 6, 2007

Alan R. Batcheller, Director
Remediation Division
Texas Commission on Environmental Quality
MC 225
P.O. Box 13087
Austin, TX 78711-3087

Dear Mr. Batcheller:

It has recently come to my attention that the Detrex Corporation facility (Detrex), a solvent recycler located in Arlington, Texas, has applied for a Municipal Settings Designation (MSD) with the City of Arlington, and the application is currently under review by your Agency. Detrex, as you are aware, is a Resource Conservation and Recovery Act (RCRA) permitted treatment storage and disposal (TSD) facility that is performing corrective action activities pursuant to its permit.

Because it is important that states maintain nationally consistent RCRA programs, the U.S. Environmental Protection Agency (EPA) has significant concerns with the establishment of an MSD for this facility because it has a RCRA permit issued pursuant to the Texas Commission on Environmental Quality's federally authorized RCRA program. There are specific requirements in 40 Code of Federal Regulations Part 264, Subpart F regarding monitoring, investigation, and remediation of releases for the protection of human health and the environment. EPA has also established guidance on how groundwater contamination should be addressed at RCRA facilities in order to be protective. (See "Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action.") These requirements and guidelines should be incorporated into site-specific permits in order to establish protective and nationally consistent groundwater corrective action. Accordingly, a RCRA facility should adhere to the corrective action requirements in its permit for investigation, cleanup and monitoring of contaminated groundwater.

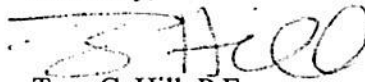
Part of the corrective action obligation under Detrex's RCRA TSD permit includes delineation and remediation of releases from solid waste management units that have contaminated onsite and offsite groundwater. Limited sampling information indicates very high levels of trichloroethylene (up to 800 ppm) are present in shallow groundwater. These concentrations are also indicative of a potentially significant non-aqueous phase liquid source below the facility that would likely contribute to continuing long-term contamination of groundwater if left unaddressed. Without remedy selection and ground water monitoring associated with the remedy, the MSD would not be appropriate.

An MSD could be possibly associated with a RCRA permitted facility as an institutional control for the prevention of ingestion as part of a remedy; however, it would be expected that the RCRA permit would still require monitoring of the groundwater to ensure that the corrective action response is consistent with the remedy.

I have attached for your consideration comments that outline some of our previous and ongoing concerns regarding the implementation of MSDs.

If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Hill", is written over a horizontal line.

Troy C. Hill, P.E.
Associate Director for RCRA
EPA Region 6

Enclosure

cc: Jacqueline S. Hardee, P.E.
Director, Waste Permits Division
Texas Commission on
Environmental Quality
MC126

Enclosure

EPA Issues and Concerns Regarding the Implementation of MSDs

During the drafting of the MSD legislation, EPA had numerous concerns regarding the protectiveness of the designations without associated implementing regulations or substantive additional guidance issued by TCEQ. TCEQ has established a guidance document (GI-326, dated March 2005) for cities considering MSD requests, but no regulations were ever promulgated. Following are several of EPA's most significant previous and ongoing concerns with MSDs:

- 1) Not any, or only limited, evaluation, delineation, and cleanup of groundwater contamination is required, depending on the applicability of exposure concerns other than ingestion, if there are no potable wells within 0.5 miles of the MSD. The potential for migration of contaminated groundwater outside the MSD appears to be a real possibility and inadequately addressed. Because there are no controls or monitoring required outside the MSD, some level of evaluation should be in place to ensure that the contamination within the MSD remains in that zone.
- 2) Detailed contaminant behavior information is not required at the time of submitting an MSD application. This may result in the TCEQ having little or no technical information regarding contaminant conditions at the property at the time of processing the application. If the eligibility requirements are met, the application is complete, and there is a determination of no current or future impacts to regional water needs, then TCEQ appears to be required under the statute to approve the application. With little or no data available for some applications, how does TCEQ determine if there is an impact to current or future water resource needs, and that there will be no impact to human health and the environment inside or outside the MSD?
- 3) Only wells on the state registry are required to be evaluated and notified. Numerous wells exist where there are no state records. There is a real potential for unidentified wells to be present within an MSD and for their users to be exposed to groundwater contamination.
- 4) Use of groundwater within the MSD for non-potable uses is not prohibited. Therefore, groundwater use for irrigation of lawns and gardens, watering livestock, use for cooling water, etc., may not be protective. The potential for human exposure may be significant depending on the contaminant and its concentration. In addition, the pumping of groundwater for non-potable purposes could spread contamination beyond its original boundaries.

- 5) An MSD does not prohibit installation of groundwater wells outside the MSD boundary. New owners would be unaware of potential current or future contamination impacts to their wells.
- 6) There is no requirement for vertical migration assessment to underlying groundwater aquifers. What mechanism exists to ensure protection of deeper, higher-quality aquifers from contamination migration from shallow MSDs?
- 7) Municipalities may not have the technical staff to adequately determine if an MSD is best for its citizens, i.e., to properly evaluate the potential for impacts to local receptors and to determine if the MSD will effectively protect future groundwater beneficial uses. At one time, MSDs were limited to municipalities with populations of 20,000 or greater; however, the population limitation has since been removed.

Torch

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

**RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)
Migration of Contaminated Groundwater Under Control**

Facility Name: Detrex
Facility Address: 322 International Parkway, Arlington, TX
Facility EPA ID #: TXD980626154V
TCEQ Solid Waste Registration ID #: 33533

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

 X If yes - check here and continue with #2 below.

 If no - re-evaluate existing data, or

 if data are not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

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2. Is groundwater known or reasonably suspected to be "contaminated"¹ above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

☒ X If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

☐ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

☐ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): The information submitted in the March 2012 Affected Property Assessment Report, the February 24, 2014 Indoor Air and Groundwater Monitoring Report, and Response to TCEQ June 2, 2014 Comment letter document the presence of trichloroethene (TCE) in boring B-7 is from releases associated with the warehouse (Solvent Recovery Still [SRS]) and the Process Recovery Area (PRA). These areas have affected soil and groundwater and require a response action. The APAR documents that the plume has been defined and extends off-site to the north and east. The concentrations of TCE in groundwater triggered further risk evaluation of indoor air exposure pathway, and the implementation of interim actions to address exposure. Results of the groundwater monitoring indicates the plume is stable and TCE concentrations are stable and decreasing. The APAR was approved on October 13, 2014 indicating the investigation was completed in accordance with 30 Texas Administrative Code (TAC) §350.51. Detrex is in the process of modifying the Permit to incorporate a Compliance Plan to include long term groundwater monitoring and implement necessary corrective action program for SWMUs and/or AOCs in accordance with HSWA Permit requirements and 30 TAC §335.167. The corrective action program for the TCE plume will include a consistent groundwater sampling and reporting frequency, cleanup objectives, ground-water protection standards, and financial assurance.

Footnotes:

¹"Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

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3. Has the migration of contaminated groundwater stabilized (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"² as defined by the monitoring locations designated at the time of this determination)?

 X If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"².

 If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"²) - skip to #8 and enter "NO" status code, after providing an explanation.

 If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): The information submitted in the March 2012 *Affected Property Assessment Report*, the February 24, 2014 *Indoor Air and Groundwater Monitoring Report*, and *Response to TCEQ June 2, 2014 Comment letter* document the presence of trichloroethene (TCE) in boring B-7 is from releases associated with the warehouse (Solvent Recovery Still [SRS]) and the Process Recovery Area (PRA). These areas have affected soil and groundwater and require a response action. The APAR documents that the plume has been defined and extends off-site to the north and east. The concentrations of TCE in groundwater triggered further risk evaluation of indoor air exposure pathway, and the implementation of interim actions to address exposure. Results of the groundwater monitoring indicates the plume is stable and TCE concentrations are stable and decreasing. The APAR was approved on October 13, 2014 indicating the investigation was completed in accordance with 30 Texas Administrative Code (TAC) §350.51. Detrex is in the process of modifying the Permit to incorporate a Compliance Plan to include long term groundwater monitoring and implement necessary corrective action program for SWMUs and/or AOCs in accordance with HSWA Permit requirements and 30 TAC §335.167. The corrective action program for the TCE plume will include a consistent groundwater sampling and reporting frequency, cleanup objectives, ground-water protection standards, and financial assurance.

² "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

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_____ If yes - continue after identifying potentially affected surface water bodies.

_____ If unknown - skip to #8 and enter "IN" status code.

[illegible]

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Environmental Indicator (EI) RCRIS code (CA750)
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5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration³ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration³ of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): _____

³ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

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Environmental Indicator (EI) RCRIS code (CA750)
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6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁴)?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR

2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s): _____

⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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Environmental Indicator (EI) RCRIS code (CA750)
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7. Will groundwater monitoring / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

 X If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

 If no - enter "NO" status code in #8.

 If unknown - enter "IN" status code in #8.

Rationale and Reference(s): The information submitted in the March 2012 *Affected Property Assessment Report*, the February 24, 2014 *Indoor Air and Groundwater Monitoring Report*, and *Response to TCEQ June 2, 2014 Comment letter* document the presence of trichloroethene (TCE) in boring B-7 is from releases associated with the warehouse (Solvent Recovery Still [SRS]) and the Process Recovery Area (PRA). These areas have affected soil and groundwater and require a response action. The APAR documents that the plume has been defined and extends off-site to the north and east. The concentrations of TCE in groundwater triggered further risk evaluation of indoor air exposure pathway, and the implementation of interim actions to address exposure. Results of the groundwater monitoring indicates the plume is stable and TCE concentrations are stable and decreasing. The APAR was approved on October 13, 2014 indicating the investigation was completed in accordance with 30 Texas Administrative Code (TAC) §350.51. Detrex is in the process of modifying the Permit to incorporate a Compliance Plan to include long term groundwater monitoring and implement necessary corrective action program for SWMUs and/or AOCs in accordance with HSWA Permit requirements and 30 TAC §335.167. The corrective action program for the TCE plume will include a consistent groundwater sampling and reporting frequency, cleanup objectives, ground-water protection standards, and financial assurance.

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8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

 X YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Detrex facility, EPA ID # TXD980626154, located at 322 International Parkway, Arlington, TX. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

 NO - Unacceptable migration of contaminated groundwater is observed or expected.

 IN - More information is needed to make a determination.

Completed by	(signature) <u>Maureen Hatfield</u>	Date <u>02.25.2015</u>
	(print) <u>Maureen Hatfield</u>	
	(title) <u>Project Manager, Team 1, VCP- Corrective Action</u>	
Supervisor	(signature) <u>Anna Rodriguez Brulloths</u>	Date <u>2/25/15</u>
	(print) <u>Anna Rodriguez Brulloths</u>	
	(title) <u>VCP-CA Section Manager</u>	
	<u>Texas Commission on Environmental Quality</u>	

Locations where References may be found:

TCEQ Central Records, Austin, TX

Contact telephone and e-mail numbers:

Project Manager listed above
(512) 239-2034
maureen.hatfield@tceq.texas.gov

Final Note: The purpose of the Migration of Contaminated Groundwater EI is to verify that the groundwater plume is stable. A "YE" determination does not constitute a screening tool to end the corrective action process. The "YE" determination may be changed at any time as new information becomes available.

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: Defrex
Facility Address: 322 International Parkway, Arlington, TX
Facility EPA ID #: TXD980626154 V
TCEQ Solid Waste Registration ID #: 33533

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

☒ If yes - check here and continue with #2 below.

☐ If no - re-evaluate existing data, or

☐ if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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Are groundwater, soil, surface water, sediments, or air media known or reasonably suspected to be "contaminated"¹ above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	<u>x</u>	—	—	PTCE and daughter products
Air (indoors) ²	<u>x</u>	—	—	TCE on-site only
Surface Soil (e.g., <2 ft)	<u>x</u>	—	—	TCE and daughter products
Surface Water	—	<u>x</u>	—	
Sediment	—	<u>x</u>	—	
Subsurf. Soil (e.g., >2 ft)	<u>x</u>	—	—	TCE and daughter products
Air (outdoors)	<u>x</u>	—	—	TCE

— If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

X If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

— If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

The information submitted in the March 2012 *Affected Property Assessment Report*, the February 24, 2014 *Indoor Air and Groundwater Monitoring Report*, and *Response to TCEQ June 2, 2014 Comment letter* document the presence of trichloroethene (TCE) in boring B-7 is from releases associated with the warehouse (Solvent Recovery Still [SRS]) and the Process Recovery Area (PRA). These areas have affected soil and groundwater and require a response action. The APAR documents that the plume has been defined and extends off-site to the north and east. The concentrations of TCE in groundwater triggered further risk evaluation of indoor air exposure pathway, and the implementation of interim actions to address exposure. Results of the groundwater monitoring indicates the plume is stable and TCE concentrations are stable and decreasing. The APAR was approved on October 13, 2014 indicating the investigation was completed in accordance with 30 Texas Administrative Code (TAC) §350.51. Detrex is in the process of modifying the Permit to incorporate a Compliance Plan to include long term groundwater monitoring and implement necessary corrective action program for SWMUs and/or AOCs in accordance with HSWA Permit requirements and 30 TAC §335.167. The corrective action program for the TCE plume will include a consistent groundwater sampling and reporting frequency, cleanup objectives, ground-water protection standards, and financial assurance.

Footnotes:

¹ "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential Human Receptors (Under Current Conditions)

<u>"Contaminated" Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>N</u>
Air (indoors)	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>N</u>
Soil (surface, e.g., <2 ft)	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>N</u>
Surface Water	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Sediment	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Soil (subsurface e.g., >2 ft)	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>N</u>
Air (outdoors)	<u>N</u>	<u>Y</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>N</u>

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated") as identified in #2 above.
2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

- ___ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- X If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.
- ___ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code.

Rationale and Reference(s): The information submitted in the March 2012 Affected Property Assessment Report, the February 24, 2014 Indoor Air and Groundwater Monitoring Report, and Response to TCEQ June 2, 2014 Comment letter document the presence of trichloroethene (TCE) in boring B-7 is from releases associated with the warehouse (Solvent Recovery Still [SRS]) and the Process Recovery Area (PRA). These areas have affected soil and groundwater and require a response action. The APAR documents that the plume has been defined and extends off-site to the north and east. The concentrations of TCE in groundwater triggered further risk evaluation of indoor air exposure pathway, and the implementation of interim actions to address exposure. Results of the groundwater monitoring indicates the plume is stable and TCE concentrations are stable and decreasing. The APAR was approved on October 13, 2014 indicating the investigation was completed in accordance with 30 Texas Administrative Code (TAC) §350.51. Detrex is in the process of modifying the Permit to incorporate a Compliance Plan

to include long term groundwater monitoring and implement necessary corrective action program for SWMUs and/or AOCs in accordance with HSWA Permit requirements and 30 TAC §335.167. The corrective action program for the TCE plume will include a consistent groundwater sampling and reporting frequency, cleanup objectives, ground-water protection standards, and financial assurance.

³ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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- 4 Can the exposures from any of the complete pathways identified in #3 be reasonably expected to be "significant"⁴ (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

_____ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

 X If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code.

Rationale and Reference(s): The information submitted in the March 2012 *Affected Property Assessment Report*, the February 24, 2014 *Indoor Air and Groundwater Monitoring Report*, and *Response to TCEQ June 2, 2014 Comment letter* document the presence of trichloroethene (TCE) in boring B-7 is from releases associated with the warehouse (Solvent Recovery Still [SRS]) and the Process Recovery Area (PRA). These areas have affected soil and groundwater and require a response action. The APAR documents that the plume has been defined and extends off-site to the north and east. The concentrations of TCE in groundwater triggered further risk evaluation of indoor air exposure pathway, and the implementation of interim actions to address exposure. Results of the groundwater monitoring indicates the plume is stable and TCE concentrations are stable and decreasing. The APAR was approved on October 13, 2014 indicating the investigation was completed in accordance with 30 Texas Administrative Code (TAC) §350.51. Detrex is in the process of modifying the Permit to incorporate a Compliance Plan to include long term groundwater monitoring and implement necessary corrective action program for SWMUs and/or AOCs in accordance with HSWA Permit requirements and 30 TAC §335.167. The corrective action program for the TCE plume will include a consistent groundwater sampling and reporting frequency, cleanup objectives, ground-water protection standards, and financial assurance.

⁴ If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5 Can the "significant" exposures (identified in #4) be shown to be within acceptable limits?

☒ X If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

☐ If no (there are current exposures that can be reasonably expected to be "unacceptable") - continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

☐ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s): The information submitted in the March 2012 *Affected Property Assessment Report*, the February 24, 2014 *Indoor Air and Groundwater Monitoring Report*, and *Response to TCEQ June 2, 2014 Comment letter* document the presence of trichloroethene (TCE) in boring B-7 is from releases associated with the warehouse (Solvent Recovery Still [SRS]) and the Process Recovery Area (PRA). These areas have affected soil and groundwater and require a response action. The APAR documents that the plume has been defined and extends off-site to the north and east. The concentrations of TCE in groundwater triggered further risk evaluation of indoor air exposure pathway, and the implementation of interim actions to address exposure. Results of the groundwater monitoring indicates the plume is stable and TCE concentrations are stable and decreasing. The APAR was approved on October 13, 2014 indicating the investigation was completed in accordance with 30 Texas Administrative Code (TAC) §350.51. Detrex is in the process of modifying the Permit to incorporate a Compliance Plan to include long term groundwater monitoring and implement necessary corrective action program for SWMUs and/or AOCs in accordance with HSWA Permit requirements and 30 TAC §335.167. The corrective action program for the TCE plume will include a consistent groundwater sampling and reporting frequency, cleanup objectives, ground-water protection standards, and financial assurance.

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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

 X YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Detrex facility, EPA ID # TXD980626154, located at 322 International Parkway, Arlington, TX under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

 NO - "Current Human Exposures" are NOT "Under Control."

 IN - More information is needed to make a determination.

Completed by (signature) Maureen Hatfield Date 02.25.2015
(print) Maureen Hatfield
(title) Project Manager, Team 1, VCP- Corrective Action

Supervisor (signature) Anna Rodriguez Brulloths Date 2/25/14
(print) Anna Rodriguez Brulloths
(title) VCP-CA Section Manager
Texas Commission on Environmental Quality

Locations where References may be found:

TCEQ Central Records, Austin, TX

Contact telephone and e-mail numbers:

Project Manager listed above
(512) 239-2034
maureen.hatfield@tceq.texas.gov

Final Note: The purpose of the Human Exposures EI is to qualitatively screen exposures based on current land and groundwater use. A "YE" determination does not constitute a screening tool that ends the corrective action process. The "YE" determination may be changed at any time as new information becomes available.